## REMARKS

### I. INTRODUCTION

The originally-filed Abstract has been replaced with a new Abstract which is provided herein on a separate sheet. Claims 11, 13 and 15 have been amended above to clarify the subject matter recited therein. Claims 1-10 were previously cancelled, and claims 19 and 20 have been withdrawn pursuant to a restriction requirement, all without prejudice. Support for such amendment is provided throughout the specification of the present application. (*See*, e.g., specification, paragraphs [0046], [0050] and [0051]). Applicants reserve the right to pursue the subject matter in the cancelled and/or withdrawn claims in one or more continuation and/or divisional applications claiming priority from the present application. Accordingly, claims 11-18 remain under consideration in the present application.

Provided herewith and above, please find the replacement Abstract, and a claim listing indicating the claim amendments, and current status of the claims on separate sheets so as to comply with the requirements set forth in 37 C.F.R. § 1.121. Applicants respectfully submit that no new matter has been added by way of the amendment to the claims.

### II. OBJECTION TO ABSTRACT SHOULD BE WITHDRAWN

In the Office Action, the Examiner objects to the Abstract because the Abstract is over 150 words. As the Examiner shall ascertain, the originally-filed Abstract has been replaced with a new Abstract which is provided herein on a separate sheet, which is less than 150 words.

In view of the above, Applicants respectfully request a withdrawal of the objection to the Abstract.

## III. REJECTIONS UNDER 35 U.S.C. § 102 SHOULD BE WITHDRAWN

Claims 11-18 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by U.S. Patent No. 5,507,164 issued to Trausi et al. (hereinafter "Trausi"). Applicants respectfully assert that Trausi fails to disclose the subject matter recited in amended independent claims 11, 13 and 15, and the claims which depend from such independent claims, for at least the reasons as set forth below.

In order for a claim to be rejected as anticipated under 35 U.S.C. § 102, each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference. Manual of Patent Examining Procedures, § 2131; *see also Lindman Machinenfabrik v. Am Hoist and Derrick*, 730 F.2d 1452, 1458 (Fed. Cir. 1984).

Amended independent claim 11 recites, *inter alia*, a press-forming device for press-forming at least one portion of a material according to at least one predetermined condition, comprising a state variable detector configured to measure **a state variable comprising a metal mold distortion amount, or the state variable and at least one of state variables** comprising a punch reaction, a metal mold temperature, a work piece deformation amount or a work piece temperature during the formation of the at least one portion of the material, and a processing condition computer arrangement configured to determine **from a first moment to a second moment** at least one particular processing condition **using (i) a first influence function matrix for**

**indicating a relation between a material characteristic of the material and a correction amount of the at least one particular processing condition, and (ii) a second influence function matrix for indicating a relation between a state variable and the correction amount of the at least one particular processing condition**.

Amended independent claim 13 recites, *inter alia*, a press-forming method for press-forming at least one section of a material according to at least one predetermined forming condition, comprising measuring **a state variable comprising a metal mold distortion amount, or the state variable and at least one of state variables** comprising a punch reaction, a metal mold temperature, a work piece deformation amount or a work piece temperature during the formation of the at least one portion of the material, and determining **from a first moment to a second moment** at least one particular processing condition **using (i) a first influence function matrix for indicating a relation between a material characteristic of the material and a correction amount of the at least one particular processing condition, and (ii) a second influence function matrix for indicating a relation between a state variable and the correction amount of the at least one particular processing condition**.

Amended independent claim 15 recites, *inter alia*, a press-forming method for press-forming at least one section of a material according to at least one predetermined forming condition, comprising measuring **a state variable comprising a metal mold distortion amount, or the state variable and at least one variable from state variables** which comprise a punch reaction, a metal mold temperature, a work piece deformation amount or a work piece temperature **during a formation of the at least one section of the material, and storing one or more measured state variables** for

every formation of the at least one section of the material, **comparing at least one variable with at least one previously-measured or previously-obtained one of the state variable to generate a comparison result**, and determining **from a first moment to a second moment** at least one processing condition **using an influence function matrix for indicating a relation between a state variable and a correction amount of the at least one processing condition**.

Support for the amendments if found throughout the specification. (*See*, e.g., paragraphs [0045] – [0051] of the published application of the specification of the present disclosure).

Trausi describes a forging system having a furnace with heating elements to heat a billet which is pressed against a die at a controlled rate and pressure, where a signal processor controls the temperature, pressure and rate as a function of parameters entered on a keyboard and the signal processor displays those parameters along with real time values of temperature, pressure and distance for the billet in a graphical interface. (*See* Trausi, Abstract).

First, Applicants respectfully assert that Trausi fails to disclose **determining at least one processing condition from a first moment to a second moment**, as recited in amended independent claims 11, 13 and 15. Such recitation can facilitate, e.g., measuring disturbance (such as, e.g., a punch reaction, metal mold temperature, metal mold distortion amount, work piece deformation amount, work piece temperature, etc.) during the processing, and further, can facilitate, e.g., controlling processing conditions by, e.g., correcting the predetermined optimum processing conditions during

formation. Indeed, Trausi fails to disclose such subject matter as recited in amended independent claims 11, 13 and 15.

Second, Trausi fails to disclose measuring **a state variable comprising a metal mold distortion amount, or the state variable and at least one variable from state variables** which comprise a punch reaction, a metal mold temperature, a work piece deformation amount or a work piece temperature, as also recited in amended independent claims 11, 13 and 15. Such recitation can facilitate, e.g., measuring a state variable of a metal mold distortion amount so that a processing condition for a metal mold can be corrected precisely. Indeed, Trausi, has no such subject matter described therein at all.

Third, amended independent claims 11 and 13 further recite determining at least one particular processing condition from a first moment to a second moment **using (i) a first influence function matrix for indicating a relation between a material characteristic of the material and a correction amount of the at least one particular processing condition, and (ii) a second influence function matrix for indicating a relation between a state variable and the correction amount of the at least one particular processing condition**. Amended independent claim 15 further recites determining at least one particular processing condition from a first moment to a second moment **using an influence function matrix for indicating a relation between a state variable and a correction amount of the at least one processing condition**.

Trausi, on the other hand, fails to disclose the use of *a matrix for determining at least one particular processing condition*, much less using a first influence function

matrix for determining at least one particular processing condition. Therefore, Trausi is completely silent as to using (i) a first influence function matrix for indicating a relation between a material characteristic of the material and a correction amount of the at least one particular processing condition, and (ii) a second influence function matrix for indicating a relation between a state variable and the correction amount of the at least one particular processing condition, as recited in amended independent claims 11 and 13, or determining at least one particular processing condition from a first moment to a second moment using an influence function matrix for indicating a relation between a state variable and a correction amount of the at least one processing condition, as recited in amended independent claim 15. Trausi merely describes that the real time values are displayed out of the furnace that permits the operator to observe, but provides absolutely no indication how to change the conditions.

Fourth, amended independent claim 15 further recites comparing at least one variable with at least one **previously-measured** or **previously-obtained** one of the state variable **to generate a comparison result**. Trausi describes that "the height and width of the billet will now change slightly as compared to its height and width during a previous time interval." (*See* Trausi, col.5, lines 44-46). However, Trausi fails to disclose comparing at least one variable with at least one previously-measured or previously-obtained one of the state variable to generate a comparison result, as recited in amended independent claim 15. Such previously-measured or previously-obtained state variable recited in amended independent claim 15 can facilitate, e.g., a state variable measured under a similar processing condition by another trial formation in advance, while likely not a state variable previously-measured within a same formation

process. In press-forming, e.g., the formation of the same product can be performed in succession, and the state variables can be measured in each successive formation, and the forming conditions can be corrected when the state variables go beyond the predetermined bounds. Indeed, amended independent claim 15 recites comparing at least one variable with at least one previously-measured or previously-obtained one of the state variable to generate a comparison result, which Trausi fails to disclose.

Regarding the 35 U.S.C. § 102(b) rejections of the dependent claims, Applicant respectfully asserts that Trausi fails to disclose the explicit recitations of amended independent claims 11, 13 and 15. Accordingly, the claims which depend from amended independent claims 11, 13 and 15 are also patentable over Trausi at least because Trausi fails to disclose the recited features of amended independent claims 11, 13 and 15.

Further, claim 17 depends from amended independent claim 15, and also recites that the comparison result is obtained by comparing a difference between **a past state variable** and the at least one variable, a moving average value and a predetermined value within at least one of a predetermined time period or a predetermined number of repetitions. Claim 18 depends from amended independent claim 15, and also recites that the comparison result is obtained by comparing a difference between a **past state variable** and the at least one variable, a moving average value and a predetermined value within at least one of a predetermined time period or a predetermined number of repetitions.

Such recited subject matter of claims 17 and 18 facilitates, e.g., optimizing current processing conditions by comparing with one previously-measured state

variable (e.g., measuring the state variables in each successive formation in mass production, and correcting the forming conditions when the state variables go beyond the predetermined threshold values). Such subject matter is clearly not disclosed by Trausi.

Therefore, for at least the reasons as presented herein above, Applicants respectfully request withdrawal of the 35 U.S.C. §102(b) rejection of claims 11-18 as being allegedly anticipated by Trausi.

## IV. CONCLUSION

In light of the foregoing, Applicants respectfully submit that claims 11-18 are in condition for allowance. Prompt consideration, reconsideration and allowance of the present application are therefore earnestly solicited. If any issues remain outstanding, the Examiner is invited to contact the undersigned via the telephone number provided below.

Respectfully submitted,

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By: _____

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